

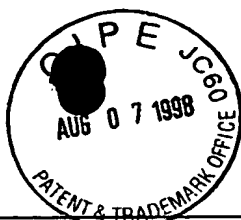


Sheet 1 of 6

Form PTO 1449 Modified		Docket No. ISIS-2710	Serial No. 09/032,972
List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Applicant Achim H. Krotz et al.	
		Filing Date February 26, 1998	Group Art Uni 1623 -1801--
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
<i>Gre</i>	AA !	Alul, R.H. et al., "Oxalyl-CPG: a labile support for synthesis of sensitive oligonucleotide derivatives", <i>Nuc. Acid Res.</i> , 1991 , 19, 1527-1532(Issue No. 7).	
<i>Me</i>	AB !	Berner, S. et al., "Studies on the role of tetrazole in the activation of phosphoramidites", <i>Nucl. Acids Res.</i> , 1989 , 17, 853-864 (Issue No. 3).	
<i>Gre</i>	AC	Bielinska, A. et al., "Regulation of Gene Expression with Double-Stranded Phosphorothioate Oligonucleotides", <i>Science</i> , 1990 , 250, 997-1000 (Nov. 16, 1990).	
<i>Me</i>	AD !	Brill, W.K. et al., "Synthesis of of oligodeoxynucleoside phosphorodithioates via thioamidites", <i>J. Am. Chem. Soc.</i> , 1989 , 111, 2321-2322	
<i>Gre</i>	AE !	Brill, W.K.D. et al., "Synthesis of Deoxydinucleoside Phosphorodithioates", <i>J. Am. Chem. Soc.</i> , 1991 , 113, 3972-3980 (Issue No. 10).	
<i>Gre</i>	AF !	Brown, T. et al., "Modern machine-aided methods of oligodeoxyribonucleotide synthesis", <i>Oligonucleotides and Analogs</i> , Ekstein, F., ed., IRL Press, 1991 , Chapter 1, 1-24	
<i>Gre</i>	AG !	Cook, P.D., "Medicinal chemistry of antisense oligonucleotides - future opportunities", <i>Anti-Cancer Drug Design</i> , 1991 , 6, 585-607	
<i>Me</i>	AH !	Dahl, B.H. et al., "Mechanistic studies on the phosphoramidite coupling reaction in oligonucleotide synthesis. I. Evidence for nucleophilic catalysis by tetrazole and rate variations with the phosphorus substituents", <i>Nucl. Acids Res.</i> , 1987 , 15, 1729-1743 (No. 4).	
<i>Gre</i>	AI !	Dahl, O., "Preparation of Nucleoside Phosphorothioates, Phosphorodithioates and Related Compounds", <i>Sulfur Reports</i> , 1991 , 11(1), 167-192	
<i>Gre</i>	AJ !	Delgado, C. et al., "The Uses and Properties of PEG-Linked Proteins", <i>Crit. Rev. in Therapeutic Drug Carrier Sys.</i> , 1992 , 9, 249-304 (Issue No. 3-4).	
EXAMINER L. E. Crane <i>LE Crane</i>		DATE CONSIDERED 07/27/99	

! Month of publication data is unavailable for this reference.

RECEIVED
AUG 11 1998
MATTHEW J. CROW
SERVICE CENTER

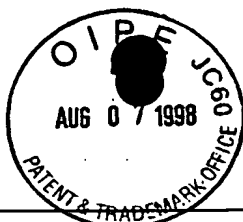


Form PTO-1449 Modified		Docket No. ISIS-2710	Serial No. 09/032,972
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Achim H. Krotz et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date February 26, 1998	Group Art Unit 1623 1801
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AK !	Eckstein, F., "Nucleoside Phosphorothioates", <i>Ann. Rev. Biochem.</i> , 1985 , 54, 367-402	
	AL !	Efimov, V.A. et al., "New efficient sulfurizing reagents for the preparation of oligodeoxyribonucleotide phosphorothioate analogues", <i>Nucl. Acids Res.</i> , 1995 , 23, 4029-4033 (Issue No. 20).	
	AM	Englisch, U. et al., "Chemically Modified Oligonucleotides as Probes and Inhibitors", <i>Angew. Chem. Int. Ed. Eng.</i> , 1991 , 30, 613-629 (No. 6, June, 1991).	
	AN !	Iyer, R.P. et al., "3H-1,2-Benzodithiole-3-one 1,1-Dioxide as an Improved Sulfurizing Reagent in the Solid-Phase Synthesis of Oligodeoxyribonucleoside Phosphorothioates", <i>J. Am. Chem. Soc.</i> , 1990 , 112, 1253-1254	
	AO !	Iyer, R.P. et al., "The Automated Synthesis of Sulfur-Containing Oligodeoxyribonucleotides Using 3H-1,2-Benzodithiol-3-one 1,1-Dioxide as a Sulfur-Transfer Reagent", <i>J. Org. Chem.</i> , 1990 , 55, 4693-4699 (Issue No. 15).	
	AP !	Kamer, P.C.J. et al., "An Efficient Approach Toward the Synthesis of Phosphorothioate Diesters via the Schonberg Reaction", <i>Tetrahedron Letts.</i> , 1989 , 30, 6757-6760 (Issue No. 48).	
	AQ	Kresse, J. et al., "The use of S-2-cyanoethyl phosphorothioate in the preparation of oligo 5'-deoxy-5'-thiothymidylates", <i>Nucl. Acids Res.</i> , 1975 , 2(1), 1-9 (Jan., 1975).	
	AR !	Kroschwitz, J.I. (ed.), "Polynucleotides", <i>Concise Encyclopedia of Polymer Science and Engineering</i> , John Wiley & Sons, New York, 1990 , 858-859	
	AS !	Nielsen, J. et al., "Thermal Instability of Some Alkyl Phosphorodiamidites", <i>J. Chem. Res.</i> , 1986 , S, 26-27	
	AT !	Ouchi, T. et al., "Synthesis and Antitumor Activity of Poly(Ethylene Glycol)s Linked to 5'-Fluorouracil via a Urethane or Urea Bond", <i>Drug Des. & Disc.</i> , 1992 , 9, 93-105	
EXAMINER L. E. Crane		DATE CONSIDERED 07/27/99	

! Month of publication data is unavailable for this reference.

AUG 11 1998

MAIL ROOM
CUSTOMER
SERVICE CENTER



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS-2710	Serial No. 09/032,972
	Applicant Achim H. Krotz et al.	
	Filing Date February 26, 1998	Group Art Unit 1623 1801

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	AU!	Rao, M.V. et al., "Dibenzoyl Tetrasulphide-A Rapid Sulphur Transfer Agent in the Synthesis of Phosphorothioate Analogues of Oligonucleotides", <i>Tetrahedron Letts.</i> , 1992 , 33, 4839-4842 (Issue No. 33).
	AV!	Ravasio, N. et al., "Selective Hydrogenations Promoted by Copper Catalysts. 1. Chemoselectivity, Regioselectivity, and Stereoselectivity in the Hydrogenation of 3-Substituted Steroids", <i>J. Org. Chem.</i> , 1991 , 56, 4329-4333 (Issue NO. 13).
	AW	Secrist, J.A. et al., "Synthesis and Biological Activity of 4'-Thionucleosides", <i>10th International Rountable: Nucleosides, Nucleotides and their Biological Applications</i> , Sept. 16-20, 1992 , <i>Abstact 21</i> , Park City, Utah, 40
	AX!	Sekine, M. et al., "Synthesis and Properties of S,S-Diaryl Nucleoside Phosphorodithioates in Oligonucleotide Synthesis", <i>J. Org. Chem.</i> , 1979 , 44(13), 2325-2326
	AY!	Vu, H. et al., "Internucleotide Phosphite Sulfurization with Tetraethylthiuram Disulfide. Phosphorothioate Oligonucleotide Synthesis via Phosphoramidite Chemistry", <i>Tetrahedron Letts.</i> , 1991 , 32, 3005-3008 (Issue No. 26).
	AZ!	Wright, P. et al., "Large Scale Synthesis of Oligonucleotides via phosphoramidite Nucleosides and a High-loaded Polystyrene Support", <i>Tetrahedron Letts.</i> , 1993 , 34, 3373-3376 (Issue No. 21).
	BA!	Wu, H. et al., "Inhibition of in vitro transcription by specific double-stranded oligodeoxyribonucleotides", <i>Gene</i> , 1990 , 89, 203-209
	BB!	Xu, Q. et al., "Efficient introduction of phosphorothioates into RNA oligonucleotides by 3-ethoxy-1,2,4-dithiazoline-5-one (EDITH)", <i>Nucl. Acids Res.</i> , 1996 , 24, 3643-3644 (Issue No. 18).
	BC!	Xu, Q. et al., "Use of 1,2,4-dithiazolidine (DtsNH) and 3-ethoxy-1,2,4-dithiazoline-5-one (EDITH) for synthesis of phosphorothioate-containing oligodeoxyribonucleotides", <i>Nucl. Acids Res.</i> , 1996 , 24, 1602-1607 (Issue No. 9).
	BD!	Yau, E.K. et al., "Synthesis of Dinucleoside and Dinucleotide Phosphorodithioates Via a Phosphotriester Approach", <i>Tetrahedron Letts.</i> , 1990 , 31, 1953-1956 (Iss. No. 4).

EXAMINER L. E. Crane

RECEIVED

DATE CONSIDERED 07/27/99

! Month of publication data is unavailable for this reference.

AUG 11 1998

MATRIX CUSTOMER
SERVICE CENTER



Form PTO-1449 Modified		Docket No. ISIS-2710	Serial No. 09/032,972
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Achim H. Krotz et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date February 26, 1998	Group Art Unit 1623 1801
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
* **	BE	Ausubel et al. (eds.), <i>Current Protocols in Molecular Biology</i>, Current Publications, 1993	
* **	BF	Eckstein, F. (ed.), <i>Oligonucleotides and Analogues A Practical Approach</i>, IRL Press, New York, 1991	
* **	BG	Greene and Wuts, <i>Protective Groups in Organic Synthesis</i>, 2d. Ed., John Wiley & Sons, New York, 1991	
* **	BH	Sambrook, J. et al. (eds.), <i>Molecular Cloning, A Laboratory Manual</i>, Second Ed., Cold Spring Harbor Laboratory Press, 1989	
* **	BI	Sanghvi, <i>Antisense Research and Application</i>, Crooke et al. (eds.), CRC Press, 1993	
EXAMINER L. E. Crane <i>L. E. Crane</i>		DATE CONSIDERED 07/27/99	

*A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.

** References of book length are typically not particularly relevant to any examination. If applicant provides the ^{specifically} relevant parts thereof, same will be considered.

RECEIVED
AUG 11 1998
MATRIX CONTROLLER
SERVICE CENTER



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS-2710	Serial No. 09/032,972
	Applicant Achim H. Krotz et al.	
	Filing Date February 26, 1998	Group Art Unit 1623 1801--

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Me</i>	BJ	34,069	09/15/92	Köster et al.	536	025.340
<i>Me</i>	BK	3,687,808	08/29/72	Merigan et al.	435	091.300
<i>Me</i>	BL	4,415,732	11/15/83	Caruthers et al.	536	026.500
<i>Me</i>	BM	4,458,066	07/03/84	Caruthers et al.	536	025.340
<i>Me</i>	BN	4,500,707	02/19/85	Caruthers et al.	536	025.340
<i>Me</i>	BO	4,517,338	05/14/85	Urdea et al.	536	025.300
<i>Me</i>	BP	4,668,777	05/26/89	Caruthers et al.	536	026.500
<i>Me</i>	BQ	4,725,677	02/16/88	Köster et al.	536	025.340
<i>Me</i>	BR	4,816,571	03/28/89	Andrus et al.	536	025.300
<i>Me</i>	BS	4,973,679	11/27/90	Caruthers et al.	536	026.710

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER L. E. Crane *LE Crane*

DATE CONSIDERED 07/27/99

**Form PTO 1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-2710

Serial No.
09/032,972

Applicant
Achim H. Krotz et al.

Filing Date
February 26, 1998

Group Art Unit 1623
1801-

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Me</i>	BT	5,151,510	09/29/92	Stec et al.	536	28 025.300
<i>Me</i>	BU	5,132,418	07/21/92	Caruthers et al.	536	27 025.300
<i>Me</i>	BV	5,210,264	05/11/93	Yau	558	167
<i>Me</i>	BW	5,212,295	05/18/93	Cook	536	26.7
<i>Me</i>	BX	5,292,875	03/08/94	Stec et al.	536	25.33
<i>Me</i>	BY	08/398,901	03/06/95	Cook et al.	536	024.500

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	

EXAMINER L. E. Crane

DATE CONSIDERED 07/27/99

**Pursuant to 37 C.F.R. 1.98(a)(2)(ii), no copy of a U.S. patent application need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.